

(No Model.)

J. C. BARNES.

COOKING RANGE.

No. 280,782.

Patented July 10, 1883.

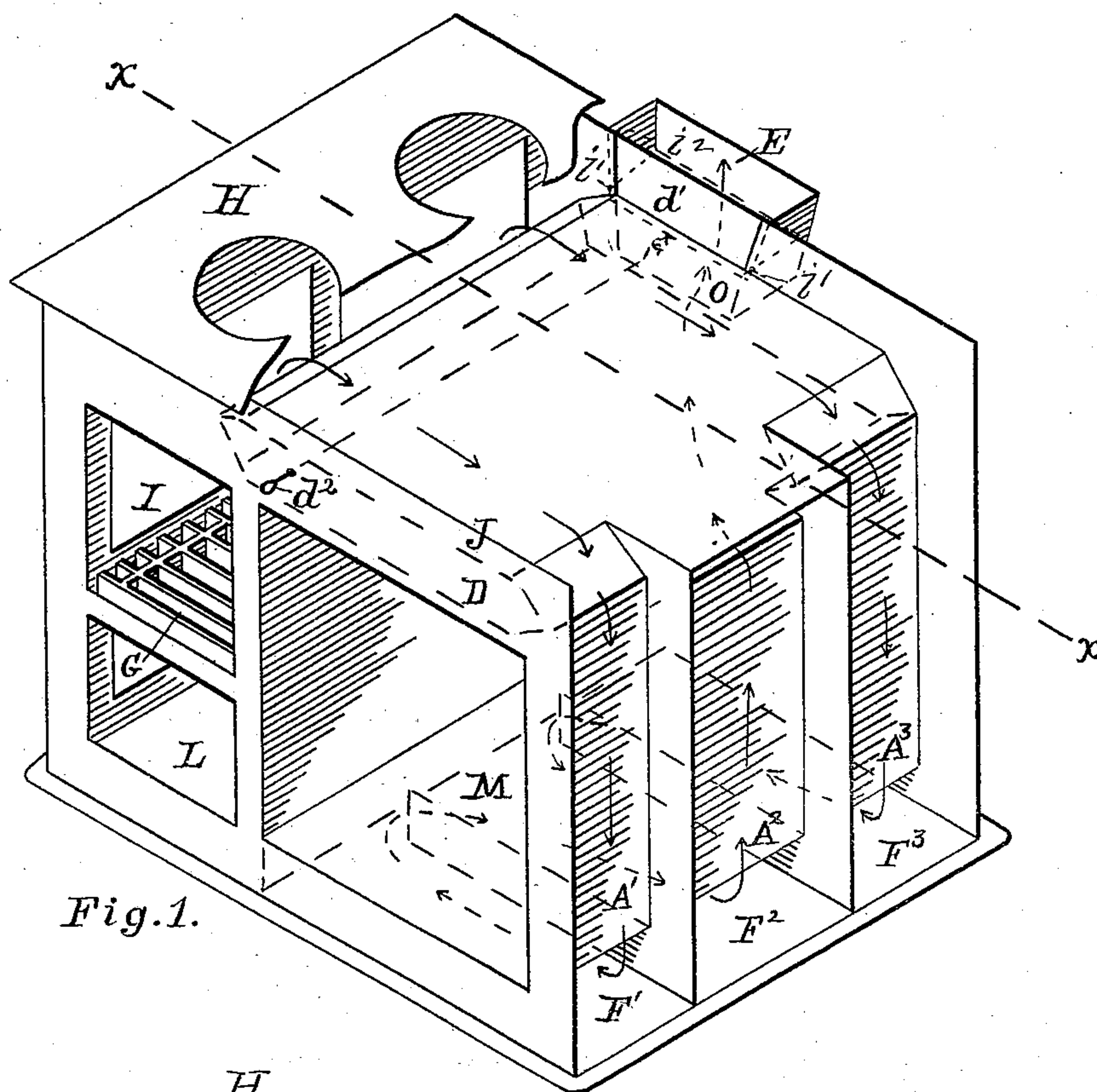


Fig.1.

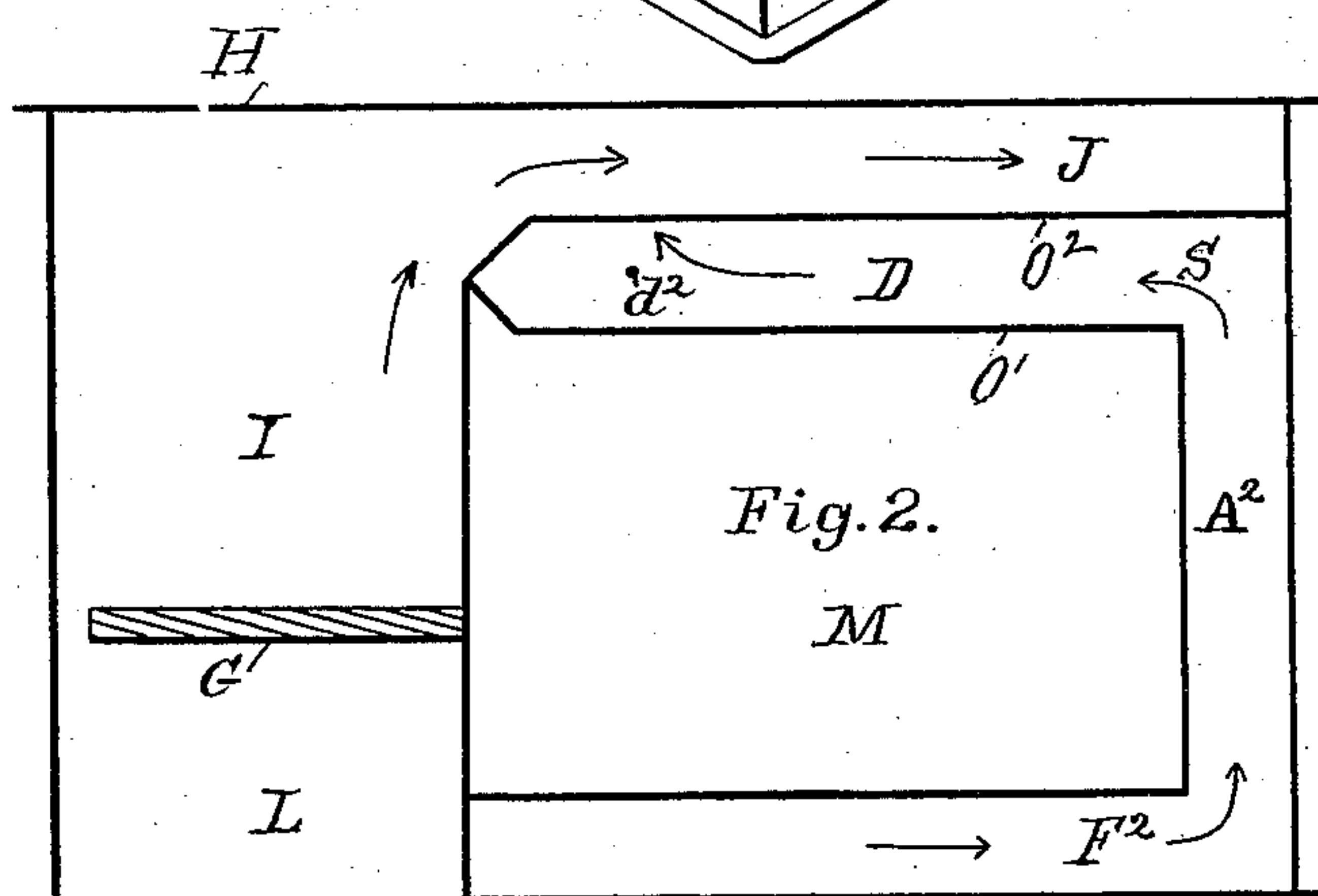


Fig. 2.

Witnesses:

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UNITED STATES PATENT OFFICE.

JOSEPH C. BARNES, OF ALBANY, NEW YORK.

COOKING-RANGE.

SPECIFICATION forming part of Letters Patent No. 280,782, dated July 10, 1883.

Application filed August 21, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH C. BARNES, of the city of Albany, county of Albany, and State of New York, have invented a new and useful Improvement in Cooking-Ranges, of which the following is a specification.

My invention relates to cooking-ranges; and it consists in the manner, hereinafter to be more fully described, of constructing a three-flue cooking-range with an additional top oven-flue located beneath the ordinary top oven-flue, between the latter and the top of the oven, and so as to connect the three base-flues and vertical end flues with the exit when the direct-draft damper is closed, the object of my invention and improvement being to prevent the hot currents from the fire from overheating the oven-top, and to secure a more uniform distribution of heat to the oven.

In the accompanying drawings, forming a part of this specification, there are two figures illustrating my invention, in both of which the same designation of parts by letter-reference is used.

Figure 1 is a perspective view of a range containing my invention, with the boiler-hole top in part removed, and the end plate which incloses the exterior of vertical flues wholly removed. Fig. 2 is a vertical section taken on the line *xx* of Fig. 1.

The several parts of the range thus illustrated are designated by letter-reference, and their operation is described as follows:

The letter H indicates that part of the boiler-hole top which remains intact, as shown in Fig. 1, and the whole of it in Fig. 2. In the former illustration a part of the boiler-hole top is omitted to better illustrate the flue-connection made with the damper.

The letter M designates the oven; I, the fire-box; G, the grate, and L the ash-pit.

The letter J indicates the usual top oven-flue, constructed between the horizontal plate O² and the boiler-hole top of the range, (designated at H, Fig. 2,) and at D is indicated a horizontal top oven-flue formed between the top of the oven, O', and the plate O², forming, as before stated, the bottom of the upper horizontal flue. This upper horizontal flue, J, connects at the end of the range with the descending flues A' and A³, the latter flue, A³, connecting

with the bottom oven-flue F³, and the descending flue A' connecting with the bottom flue F'. At their other ends both the oven bottom flues F' and F³ connect with the return-flue F², and this latter with the end ascending flue A², which at its top, as indicated at S, connects with the top oven-flue, D.

When the damper *d'*, which is hinged at *i i*, and constructed to be operated by the damper-rod *d*², so as to swing up or down within the exit-opening E, as indicated by a dotted line, is turned up, as shown in drawings, the heated gases and flame, coming from the fire-box I under a draft impulse, are drawn through the upper horizontal flue, J, to descend through the end flues A' and A³, to the base-flues F' and F³, to return through the central bottom flue, F², to the end ascending flue A², and at the top of the latter, as indicated at S, they pass into the horizontal top oven-flue, D, and from thence to the exit E. When the damper *d'* is moved over and down on its hinged connection at *i i*, and placed in the position indicated by the dotted line *i*², then the heated gases and flame will pass from the fire-box through the flue J directly to the exit.

The advantages derived from the application of three base and end flues instead of two, and their combination with an additional top flue to heat the top of the oven by the currents of heat after they have heated the bottom of the oven, are the following: Where the heated gases and flame pass along the oven-top immediately after leaving the fire, they most generally overheat it; but by the use of the intermediate flue, and the combination of the top flue with the three vertical and base flues, that difficulty is obviated and a better distribution of the heat is gained.

I am well aware that the three bottom and end flues which I employ have been applied to stoves, and that the better results produced by my invention are due to the combination of these flues with my additional horizontal top flue, as I construct and arrange it to co-operate with the former.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

In a cooking-range having a fire-box at its end, the combination of the upper horizontal

flue, J, the oven-flue D, arranged between the horizontal flue and the oven-top, the intermediate damper, *d*, for connecting either of said horizontal flues with the side exit, E, the adjacently-arranged end flues, $A^1 A^2 A^3$, and the adjacently-arranged base-flues F^1, F^2 , and F^3 beneath the oven, so constructed to connect with said vertical end flues and the top oven-

flue, D, in the manner and for the purpose set forth. 10

Signed at Albany this 26th day of June, 1882.

JOSEPH C. BARNES.

Witnesses:

WILLIAM H. VAN WORMER,
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